

REMARKS

Applicants respectfully request entry of the following amendments and remarks in response to the Office Action mailed January 12, 2009. Applicants respectfully submit that the amendments and remarks contained herein place the instant application in condition for allowance.

Upon entry of the amendments in this response, claims 1, 6, 11, and 16 are pending. In particular, Applicants amend claims 1, 6, 11, and 16. Reconsideration and allowance of the application and presently pending claims are respectfully requested.

I. Rejections Under 35 U.S.C. §112, First Paragraph

A. Claims 1, 6, 11, and 16 Written Description

The Office Action indicates that claims 1, 6, 11, and 16 stand rejected under 35 U.S.C. §112, First Paragraph, as allegedly failing to comply with the written description requirement. Applicants amend claims 1, 6, 11, and 16, as indicated above. Applicants submit that the claims, as amended, fulfill all the requirements of 35 U.S.C. §112, first paragraph.

B. Claims 1, 6, 11, and 16 Enablement

The Office Action indicates that claims 1, 6, 11, and 16 stand rejected under 35 U.S.C. §112, First Paragraph as allegedly failing to comply with the enablement requirement. More specifically, the Office Action argues that “[i]t is unclear how the level of risk is attributed to ‘the hardware cost of cache memory... the relationship between the level of risk (and the threshold) and the hardware cost of memory is not explained in Applicant’s specification. Nor does the specification explain what is meant by ‘hardware cost’ (OA page section 6). Applicants respectfully disagree. First, as one of ordinary skill in the art would understand, a level of risk can be attributed to the hardware cost via a balancing of probabilities versus utilization of

system resources. More specifically, if the probability of a user selecting a link is low and the hardware resources that would be utilized in downloading information from that link are high, the level of risk may be increased. Similarly, the level of risk may be decreased when the opposite is true. Second, as would be evident to one of ordinary skill in the art, “hardware costs” refer to the level of utilization of computer hardware in retrieving the desired information. Accordingly, Applicants traverse this rejection and submit that claims 1, 6, 11, and 16 fulfill all the requirements of 35 U.S.C. §112, first paragraph.

II. Rejections Under 35 U.S.C. §112, Second Paragraph

The Office Action indicates that claims 1, 6, 11, and 16 stand rejected under 35 U.S.C. §112, Second Paragraph as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants amend claim 1, as indicated above and submit that claims 6, 11, and 16 do not include this alleged deficiency. Applicants submit that these amendments fulfill all the requirements of 35 U.S.C. §112. However, it is found that these deficiencies exist in claims 6, 11, and 16, Applicant agree to amend those claims accordingly.

III. Rejections Under 35 U.S.C. §103(a)

A. Claim 1 is Allowable Over Horvitz, Takagi, Barrett, and Malkin

The Office Action indicates that claim 1 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 6,182,133 (“*Horvitz*”) in view of U.S. Patent No. 5,881,231 (“*Takagi*”), further in view of U.S. Patent No. 5,727,129 (“*Barrett*”) further in view of U.S. Patent No. 6,085,193 (“*Malkin*”). Applicants respectfully traverse this rejection for at least the reason that *Horvitz* in view of *Takagi*, further in view of *Barrett*, further in view of *Malkin*

fail to disclose, teach, or suggest all of the elements of claim 1. More specifically, claim 1

recites:

A system for facilitating communication between a user and a network of information items, comprising:

a remote data storage device for storing the information items, wherein the information items are stored in the form of pages, and wherein the pages contain a plurality of links to other information items;

a multi-layer architecture comprising:

a client device having a user interface program thereon, for allowing a user to interface with the network and request the information items; and

a server device, in communication with the client device and in communication with the remote storage device, for handling information requests from multiple clients and for storing information retrieved from the data storage devices locally in a server cache memory;

a data collection module for collecting and storing successive actions of a single particular authenticated user on a user specific basis that distinguishes between a specific registered and unregistered users; and

a probability module in communication with the data collection module for calculating a probability for the desirability of each of the links based on the action of the single particular user and for **comparing each of the probabilities to a predetermined threshold value associated with business rules which factor a level of risk of retrieving data that may not be used and an associated hardware cost of cache memory** to identify predicted links and for retrieving the predicted information items associated with the links from the remote data storage devices and enabling the storage of the predicted information items on both the client device layer and the server device layer of the multi-layer architecture in advance of the single particular user's request for the selected information items, the probability module including a dedicated rules engine for storing the business rules, the probability module further configured to:

update the probabilities assigned to the links with each successive user activity;

abort retrieving the predicted information items if the user requests an information item other than the predicted information items;

continue retrieving the predicted information items from the remote data storage devices and storing the predicted information items in the server cache memory if the user requests the predicted information item; and

downloads the user requested information item to the client from the server cache memory;

wherein the probability is calculated based solely on the actions of the single particular user during a past navigation and not as a member of a larger set of users.
(Emphasis added).

Applicants respectfully submit that claim 1, as amended, is allowable over the cited art for at least the reason that none of *Horvitz*, *Takagi*, *Barrett*, and *Malkin*, taken alone or in combination, discloses, teaches, or suggests a “system for facilitating communication between a user and a network of information items, comprising... a probability module... [for] ***comparing each of the probabilities to a predetermined threshold value associated with business rules which factor a level of risk of retrieving data that may not be used and an associated hardware cost of cache... wherein the probability is calculated based solely on the actions of the single particular user during a past navigation and not as a member of a larger set of users***” as recited in claim 1, as amended. More specifically, *Horvitz* discloses “for a given web page, in terms of its URL, a set of successive web pages... to which the user is likely to next transition... hereinafter a ‘transition probability’” (column 24, line 51). However, *Horvitz* fails to even suggest “a probability module... [for] ***comparing each of the probabilities to a predetermined threshold value associated with business rules which factor a level of risk of retrieving data that may not be used and an associated hardware cost of cache... wherein the probability is calculated based solely on the actions of the single particular user during a past navigation and not as a member of a larger set of users***” as recited in claim 1, as amended.

Additionally, *Takagi* fails to overcome the deficiencies of *Horvitz*. More specifically, *Takagi* discloses “utilization of the terminal 10 by the user is started by the user authentication such as that using a combination of user name and a password” (column 9, line 61). However, this is different than “a probability module... [for] ***comparing each of the probabilities to a predetermined threshold value associated with business rules which factor a level of risk of retrieving data that may not be used and an associated hardware cost of cache...***

wherein the probability is calculated based solely on the actions of the single particular user during a past navigation and not as a member of a larger set of users” as recited in claim 1, as amended.

Further, *Barrett* fails to overcome the deficiencies of *Horvitz* and *Takagi*. More specifically, *Barrett* discloses “a Web page likely to be selected is identified” (column 9, line 9). However, *Barrett* fails to suggest “a probability module... [for] ***comparing each of the probabilities to a predetermined threshold value associated with business rules which factor a level of risk of retrieving data that may not be used and an associated hardware cost of cache... wherein the probability is calculated based solely on the actions of the single particular user during a past navigation and not as a member of a larger set of users***” as recited in claim 1, as amended, for at least the reason that *Barrett* appears to only disclose one predicted web page that is most likely to be selected.

Similarly, *Malkin* fails to overcome the deficiencies of *Horvitz*, *Takagi*, and *Barrett*. More specifically, *Malkin* discloses “[s]toring the PHI with the cached object provides additional opportunity for prefetching” (column 19, line 65). However, *Malkin* fails to even suggest “a probability module... [for] ***comparing each of the probabilities to a predetermined threshold value associated with business rules which factor a level of risk of retrieving data that may not be used and an associated hardware cost of cache... wherein the probability is calculated based solely on the actions of the single particular user during a past navigation and not as a member of a larger set of users***” as recited in claim 1, as amended. For at least these reasons, claim 1, as amended, is allowable.

B. Claim 6 is Allowable Over Horvitz, Takagi, Barrett, and Malkin

The Office Action indicates that claim 6 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 6,182,133 ("*Horvitz*") in view of U.S. Patent No. 5,881,231 ("*Takagi*"), further in view of U.S. Patent No. 5,727,129 ("*Barrett*") further in view of U.S. Patent No. 6,085,193 ("*Malkin*"). Applicants respectfully traverse this rejection for at least the reason that *Horvitz* in view of *Takagi*, further in view of *Barrett*, further in view of *Malkin* fail to disclose, teach, or suggest all of the elements of claim 6. More specifically, claim 6 recites:

A method for facilitating communication between a user and a network of information items, comprising:

providing a multi-layer architecture comprising a client device and a server device;

storing the information items on a remote data storage device, wherein the information items are stored in the form of pages, and wherein the pages contain a plurality of links to other information items;

configuring the client device having a user interface program thereon, to allow a user to interface with the network and request a download of the information items;

configuring the server device for handling information requests from multiple clients and for storing information retrieved from the data storage devices locally in server cache memory;

collecting and storing successive actions of an authenticated single particular user;

calculating, via a probability module that includes a rules engine, a probability for each of the links based on the successive actions of the authenticated single particular user on a specific basis that distinguishes between a specific registered user and unregistered users;

comparing each of the probabilities to a predetermined threshold value that is determined from business rules, stored in the rules engine, which factor a level of risk of retrieving data that may not be used where the level of risk is restricted to an associated hardware cost of cache memory;

retrieving the information items associated with the links from the remote data storage devices;

enabling the storage of the information items on both the client device layer and the server device layer of the multi-layer architecture in advance of the single particular user's request for the selected information items;

updating the probabilities assigned to the links with each successive user activity;

retrieving the predicted information items if the user requests an information item other than the predicted information items;

retrieving the predicted information items from the remote data storage devices; and storing the predicted information items in the server cache memory if the user requests the predicted information item; and

downloading the user requested information item to the client from the server cache memory;

wherein the probability is calculated based solely on the actions of the single particular user during a past navigation and not as a member of a larger set of users.

(Emphasis added).

Applicants respectfully submit that claim 6, as amended, is allowable over the cited art for at least the reason that none of *Horvitz*, *Takagi*, *Barrett*, and *Malkin*, taken alone or in combination, discloses, teaches, or suggests a “method for facilitating communication between a user and a network of information items, comprising... ***comparing each of the probabilities to a predetermined threshold value that is determined from business rules, stored in the rules engine, which factor a level of risk of retrieving data that may not be used where the level of risk is restricted to an associated hardware cost of cache memory... wherein the probability is calculated based solely on the actions of the single particular user during a past navigation and not as a member of a larger set of users***” as recited in claim 6, as amended. More specifically, *Horvitz* discloses “for a given web page, in terms of its URL, a set of successive web pages... to which the user is likely to next transition... hereinafter a ‘transition probability’” (column 24, line 51). However, *Horvitz* fails to even suggest ***“comparing each of the probabilities to a predetermined threshold value that is determined from business rules, stored in the rules engine, which factor a level of risk of retrieving data that may not be used where the level of risk is restricted to an associated hardware cost of cache memory... wherein the probability is calculated based solely on***

the actions of the single particular user during a past navigation and not as a member of a larger set of users” as recited in claim 6, as amended.

Additionally, *Takagi* fails to overcome the deficiencies of *Horvitz*. More specifically, *Takagi* discloses “utilization of the terminal 10 by the user is started by the user authentication such as that using a combination of user name and a password” (column 9, line 61). However, this is different than “***comparing each of the probabilities to a predetermined threshold value that is determined from business rules, stored in the rules engine, which factor a level of risk of retrieving data that may not be used where the level of risk is restricted to an associated hardware cost of cache memory... wherein the probability is calculated based solely on the actions of the single particular user during a past navigation and not as a member of a larger set of users***” as recited in claim 6, as amended.

Further, *Barrett* fails to overcome the deficiencies of *Horvitz* and *Takagi*. More specifically, *Barrett* discloses “a Web page likely to be selected is identified” (column 9, line 9). However, *Barrett* fails to suggest “***comparing each of the probabilities to a predetermined threshold value that is determined from business rules, stored in the rules engine, which factor a level of risk of retrieving data that may not be used where the level of risk is restricted to an associated hardware cost of cache memory... wherein the probability is calculated based solely on the actions of the single particular user during a past navigation and not as a member of a larger set of users***” as recited in claim 6, as amended, for at least the reason that *Barrett* appears to only disclose one predicted web page that is most likely to be selected.

Similarly, *Malkin* fails to overcome the deficiencies of *Horvitz*, *Takagi*, and *Barrett*. More specifically, *Malkin* discloses “[s]toring the PHI with the cached object provides additional opportunity for prefetching” (column 19, line 65). However, *Malkin* fails to even suggest “***comparing each of the probabilities to a predetermined threshold value that is***

determined from business rules, stored in the rules engine, which factor a level of risk of retrieving data that may not be used where the level of risk is restricted to an associated hardware cost of cache memory... wherein the probability is calculated based solely on the actions of the single particular user during a past navigation and not as a member of a larger set of users” as recited in claim 6, as amended. For at least these reasons, claim 6, as amended, is allowable.

C. Claim 11 is Allowable Over Horvitz, Takagi, Barrett, and Malkin

The Office Action indicates that claim 11 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 6,182,133 (“*Horvitz*”) in view of U.S. Patent No. 5,881,231 (“*Takagi*”), further in view of U.S. Patent No. 5,727,129 (“*Barrett*”) further in view of U.S. Patent No. 6,085,193 (“*Malkin*”). Applicants respectfully traverse this rejection for at least the reason that *Horvitz* in view of *Takagi*, further in view of *Barrett*, further in view of *Malkin* fail to disclose, teach, or suggest all of the elements of claim 11. More specifically, claim 11 recites:

A method for facilitating communication between a user and a network of information items, comprising:

means for providing a multi-layer architecture comprising a client device and a server device;

means for storing the information items on a remote data storage device, wherein the information items are stored in the form of pages, and wherein the pages contain a plurality of links to other information items;

means for configuring the client device having a user interface program thereon, to allow a user to interface with the network and request a download of the information items;

means for configuring the server device for handling information requests from multiple clients and for storing information retrieved from the data storage devices locally in server cache memory;

means for collecting and storing successive actions of an authenticated particular user;

means for calculating a probability for each of the links based on the successive actions of the authenticated single

particular user on a user specific basis that distinguishes between a specific registered user and unregistered users;

means for comparing each of the probabilities to a predetermined threshold value that is determined from business rules which factor a level of risk of retrieving data that may not be used where the level of risk is restricted to an associated hardware cost of cache memory;

means for retrieving the information items associated with the links from the remote data storage devices;

means for enabling the storage of the information items on both the client device layer and the server device layer of the multi-layer architecture in advance of the single particular user's request for the selected information items;

means for updating the probabilities assigned to the links with each successive user activity;

means for retrieving the predicted information items if the user requests an information item other than the predicted information items;

means for retrieving the predicted information items from the remote data storage devices;

means for storing the predicted information items in the server cache memory if the user requests the predicted information item; and

means for downloading the user requested information item to the client from the server cache memory;

wherein the probability is calculated based solely on the actions of the single particular user during a past navigation and not as a member of a larger set of users.

(Emphasis added).

Applicants respectfully submit that claim 11, as amended, is allowable over the cited art for at least the reason that none of *Horvitz*, *Takagi*, *Barrett*, and *Malkin*, taken alone or in combination, discloses, teaches, or suggests a “method for facilitating communication between a user and a network of information items, comprising... ***means for comparing each of the probabilities to a predetermined threshold value that is determined from business rules which factor a level of risk of retrieving data that may not be used where the level of risk is restricted to an associated hardware cost of cache memory... wherein the probability is calculated based solely on the actions of the single particular user during a past navigation and not as a member of a larger set of users***” as recited in claim 11, as amended. More specifically, *Horvitz* discloses “for a given web page, in terms of its URL, a set

of successive web pages... to which the user is likely to next transition... hereinafter a 'transition probability'" (column 24, line 51). However, *Horvitz* fails to even suggest ***"means for comparing each of the probabilities to a predetermined threshold value that is determined from business rules which factor a level of risk of retrieving data that may not be used where the level of risk is restricted to an associated hardware cost of cache memory... wherein the probability is calculated based solely on the actions of the single particular user during a past navigation and not as a member of a larger set of users"*** as recited in claim 11, as amended.

Additionally, *Takagi* fails to overcome the deficiencies of *Horvitz*. More specifically, *Takagi* discloses "utilization of the terminal 10 by the user is started by the user authentication such as that using a combination of user name and a password" (column 9, line 61). However, this is different than ***"means for comparing each of the probabilities to a predetermined threshold value that is determined from business rules which factor a level of risk of retrieving data that may not be used where the level of risk is restricted to an associated hardware cost of cache memory... wherein the probability is calculated based solely on the actions of the single particular user during a past navigation and not as a member of a larger set of users"*** as recited in claim 11, as amended.

Further, *Barrett* fails to overcome the deficiencies of *Horvitz* and *Takagi*. More specifically, *Barrett* discloses "a Web page likely to be selected is identified" (column 9, line 9). However, *Barrett* fails to suggest ***"means for comparing each of the probabilities to a predetermined threshold value that is determined from business rules which factor a level of risk of retrieving data that may not be used where the level of risk is restricted to an associated hardware cost of cache memory... wherein the probability is calculated based solely on the actions of the single particular user during a past navigation and not as a member of a larger set of users"*** as recited in claim 11, as amended, for at least the

reason that *Barrett* appears to only disclose one predicted web page that is most likely to be selected.

Similarly, *Malkin* fails to overcome the deficiencies of *Horvitz*, *Takagi*, and *Barrett*. More specifically, *Malkin* discloses “[s]toring the PHI with the cached object provides additional opportunity for prefetching” (column 19, line 65). However, *Malkin* fails to even suggest **“means for comparing each of the probabilities to a predetermined threshold value that is determined from business rules which factor a level of risk of retrieving data that may not be used where the level of risk is restricted to an associated hardware cost of cache memory... wherein the probability is calculated based solely on the actions of the single particular user during a past navigation and not as a member of a larger set of users”** as recited in claim 11, as amended. For at least these reasons, claim 11, as amended, is allowable.

D. Claim 16 is Allowable Over Horvitz, Takagi, Barrett, and Malkin

The Office Action indicates that claim 16 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 6,182,133 (“*Horvitz*”) in view of U.S. Patent No. 5,881,231 (“*Takagi*”), further in view of U.S. Patent No. 5,727,129 (“*Barrett*”) further in view of U.S. Patent No. 6,085,193 (“*Malkin*”). Applicants respectfully traverse this rejection for at least the reason that *Horvitz* in view of *Takagi*, further in view of *Barrett*, further in view of *Malkin* fail to disclose, teach, or suggest all of the elements of claim 16. More specifically, claim 16 recites:

A first network for facilitating communication between a user and a network of information items, comprising:

- a remote data storage device for storing the information items, wherein the information items are stored in the form of pages, and wherein the pages contain a plurality of links to other information items;

- a multi-layer architecture comprising:

- a client device having a user interface program thereon, for allowing a user to interface with the network and request a download of the information items;

- a server device, in communication with the client device and in communication with the remote storage device, for handling information requests from multiple clients and for storing information retrieved from the data storage devices locally in server cache memory; and

- the first network;

- a data collection module for collecting and storing successive actions of an authenticated single particular user on a user specific basis that distinguishes between a specific registered user and unregistered users; and

- a probability module in communication with the data collection module for calculating a probability for each of the links based on the successive actions of the authenticated single particular user, and for **comparing each of the probabilities to a predetermined threshold value that is determined from business rules which factor a level of risk of retrieving data that may not be used where the level of risk is restricted to an associated hardware cost of cache memory**, and for retrieving the information items associated with the links from the remote data storage devices and enabling the storage of the information items on both the client device layer and the server device layer of the multi-layer architecture in advance of the single particular user's request for the selected information items, the probability module including a rules engine for storing the business rules,

- wherein the probability module updates the probabilities assigned to the links with each successive user activity;

- wherein the probability module aborts retrieving the predicted information items if the user requests an information item other than the predicted information items;

- wherein the probability module continues retrieving the predicted information items from the remote data storage devices and storing the predicted information items in the server cache memory if the user requests the predicted information item; and

- wherein the probability module downloads the user requested information item to the client from the server cache memory;

- wherein the probability is calculated based solely on the actions of the single particular user during a past navigation and not as a member of a larger set of users.**

(Emphasis added).

Applicants respectfully submit that claim 16, as amended, is allowable over the cited art for at least the reason that none of *Horvitz*, *Takagi*, *Barrett*, and *Malkin*, taken alone or in combination, discloses, teaches, or suggests a “first network for facilitating communication between a user and a network of information items, comprising... a probability module... for **comparing each of the probabilities to a predetermined threshold value that is determined from business rules which factor a level of risk of retrieving data that may not be used where the level of risk is restricted to an associated hardware cost of cache memory... wherein the probability is calculated based solely on the actions of the single particular user during a past navigation and not as a member of a larger set of users**” as recited in claim 16, as amended. More specifically, *Horvitz* discloses “for a given web page, in terms of its URL, a set of successive web pages... to which the user is likely to next transition... hereinafter a ‘transition probability’” (column 24, line 51). However, *Horvitz* fails to even suggest “a probability module... for **comparing each of the probabilities to a predetermined threshold value that is determined from business rules which factor a level of risk of retrieving data that may not be used where the level of risk is restricted to an associated hardware cost of cache memory... wherein the probability is calculated based solely on the actions of the single particular user during a past navigation and not as a member of a larger set of users**” as recited in claim 16, as amended.

Additionally, *Takagi* fails to overcome the deficiencies of *Horvitz*. More specifically, *Takagi* discloses “utilization of the terminal 10 by the user is started by the user authentication such as that using a combination of user name and a password” (column 9, line 61). However, this is different than “a probability module... for **comparing each of the probabilities to a predetermined threshold value that is determined from business rules which factor a level of risk of retrieving data that may not be used where the level of risk is restricted to an associated hardware cost of cache memory... wherein the probability is calculated**

based solely on the actions of the single particular user during a past navigation and not as a member of a larger set of users” as recited in claim 16, as amended.

Further, *Barrett* fails to overcome the deficiencies of *Horvitz* and *Takagi*. More specifically, *Barrett* discloses “a Web page likely to be selected is identified” (column 9, line 9). However, *Barrett* fails to suggest “a probability module... for ***comparing each of the probabilities to a predetermined threshold value that is determined from business rules which factor a level of risk of retrieving data that may not be used where the level of risk is restricted to an associated hardware cost of cache memory... wherein the probability is calculated based solely on the actions of the single particular user during a past navigation and not as a member of a larger set of users***” as recited in claim 16, as amended, for at least the reason that *Barrett* appears to only disclose one predicted web page that is most likely to be selected.

Similarly, *Malkin* fails to overcome the deficiencies of *Horvitz*, *Takagi*, and *Barrett*. More specifically, *Malkin* discloses “[s]toring the PHI with the cached object provides additional opportunity for prefetching” (column 19, line 65). However, *Malkin* fails to even suggest “a probability module... for ***comparing each of the probabilities to a predetermined threshold value that is determined from business rules which factor a level of risk of retrieving data that may not be used where the level of risk is restricted to an associated hardware cost of cache memory... wherein the probability is calculated based solely on the actions of the single particular user during a past navigation and not as a member of a larger set of users***” as recited in claim 16, as amended. For at least these reasons, claim 16, as amended, is allowable.

CONCLUSION

In light of the foregoing amendments and for at least the reasons set forth above, all objections and/or rejections have been traversed, rendered moot, and/or addressed, and that the now pending claims are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested.

Any other statements in the Office Action that are not explicitly addressed herein are not intended to be admitted. In addition, any and all findings of inherency are traversed as not having been shown to be necessarily present. Furthermore, any and all findings of well-known art and Official Notice, or statements interpreted similarly, should not be considered well-known for the particular and specific reasons that the claimed combinations are too complex to support such conclusions and because the Office Action does not include specific findings predicated on sound technical and scientific reasoning to support such conclusions.

If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

Respectfully submitted,

/afb/

Anthony F. Bonner Jr. Reg. No. 55,012

**THOMAS, KAYDEN,
HORSTEMEYER & RISLEY, L.L.P.**
Suite 1500
600 Galleria Parkway SE
Atlanta, Georgia 30339
(770) 933-9500
Customer No.: **38823**